

ABSTRACT

This invention provides a catalyst for producing hydrogen gas from a mixed gas comprising dimethyl ether and water vapor or carbon dioxide gas, which comprises copper, iron, cobalt, palladium, iridium, platinum, rhodium, or nickel as an active component, and a method of producing synthesis gas or hydrogen gas in a high yield at a low temperature. By using the catalyst, fuel cell, electricity generation, reduction of iron ore and the like can be carried out.